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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/826,700	04/05/2001	Peter Fuhrmann	DE 000060	4195

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EXAMINER	
SHAH, CHIRAG G	

ART UNIT	PAPER NUMBER
2616	

DATE MAILED: 11/29/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/826,700	FUHRMANN ET AL.	
	Examiner	Art Unit	
	Chirag G. Shah	2616	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *17 August 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-9* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-6 and 9* is/are rejected.

7)☒ Claim(s) *7 and 8* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed 8/17/06 have been fully considered but they are not persuasive.

2. Applicant continues to argue that the Office Action continues to base the rejection on a mistaken assertion that the flag bits of Chari correspond to pilot signals. Applicant alleges that the Examiner's interpretation to the flag bits as pilot signals is contrary to the plain meaning of the term pilot signal. Applicant further argues that the office action does not provide adequate evidence of motivation to suggest that the skilled artisan would modify the Chari reference with teachings from the Dean reference.

Examiner respectfully disagrees and redirects Applicant the MPEP 2111. As stated in the MPEP 2111 and the case law In re Hyatt, 211 R.3d 1367,137254 USPQ2d 1664, 1667 (Fed. Cir. 2000), during patent examination, the pending claims must be given their broadest reasonable interpretation consistent with the specification. According to the specification on page 5, the pilot signal appears to be merely a control signal. Thus, the broadest reasonable interpretation of flag bits within a flag signal of Chari reference functions as control signal corresponding to the function of pilot signal in the specification and definition used in the Art.

Examiner, further respectfully redirects Applicant to Chari reference (specifically col. 4, lines 22 to col. 5, lines 19) to further provide evidence as to why the flag bits within the flag signal of Chari corresponds to pilot signals. The beginning of flag bits is important since the star coupler senses when it is about to receive a message. This clearly suggests that the flag bit

received in a flag signal with "1" provides a control signal functioning as pilot signal for the star couple to sense a control signal of receiving a message. The definition of a pilot signal in the art is a signal transmitted over a communication system for control or reference purposes. The flag bits within the flag signal is a control signal received at the star coupler for enabling the star coupler to sense that it is about to receive a message. Thus, Examiner respectfully deems that the flag bits with the flag signal of Chari corresponds to pilot signals and maintains that claims 1-6 and 9 are unpatentable under 35 U.S.C 103(a) over Chari in view of Dean.

Examiner respectfully provides clarity to the Applicant as to how the references suggest that the modification would be an improvement. Applicant agrees with the Examiner that Chari reference teaches the ability to detect collisions. Examiner now provides for clarification that the improvement of incorporating Dean's teachings into Chari's teaching would enable an improved ability to detect collisions by monitoring the signal level of the pilot signal on the transmission medium.

Based on the response to the argument provides, claims 1-6 and 9 respectfully remain unpatentable. Claims 7 and 8 remains objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

3. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO

MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claims 1-6 and 9 rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 4,428,046 to Chari et al. in view of U.S. Patent No. 4,641,375 to Dean.

Regarding claim 1, Chaff teaches a network (e.g., system 10, see FIG. 1) comprising a plurality of network nodes (e.g., subsystems 12 No.0-N), characterized in that the network nodes (e.g., subsystems 12 No.0-N) are directly coupled to each other via at least one star node (e.g., star coupler 14, see FIG. 1), in that the star node (e.g., star coupler 14) includes a plurality of star interfaces (e.g., interfaces 26, see FIG. 3; see also col. 3, line 13 - col. 5, line 53) which are assigned to at least one respective network node (e.g., subsystem 12 No.0, see col. 4, lines 49- 57 regarding an interface 26 associated with each subsystem 12), in that one star interface (e.g., interface 26) transfers data, in dependence on a pilot signal (e.g., by detecting beginning flag

bits, see col. 4, line 53 - col. 5, line 11), from the assigned network node (e.g., subsystem 12 No.0) to the other star interfaces (e.g., interfaces 26 No.1-4) or from another star interface (e.g., interface 26 No.N) to the assigned respective network node (e.g., subsystem 12 No.0) (e.g., see col. 4, line 53 - col. 5, line 11 regarding transmissions between subsystems 12 and interfaces 26) and in that also in the event of simultaneous arrival of at least two pilot signals at the respective star interfaces, a decision circuit (e.g., within contention circuitry 42) releases one star interface for the transmission of data (e.g., see col. 5, lines 3-19 regarding "If two subsystems begin to generate flag bits during the same clock cycle, then the contention circuitry will resolve contention in favor of the subsystems 12 in accordance with a predetermined order of priority"). However, Chad may not specifically disclose that the pilot signal is a signal of varying frequency.

Dean, like Chaff, also teaches a network with a star coupler (e.g., see "star coupler" in FIG. 2), and further, Dean teaches a pilot signal is used (e.g., see abstract; col. 2, lines 41-50; and col. 4, lines 10-60 regarding pilot tones) wherein the pilot signal is a signal of varying frequency (e.g., see col. 4, lines 22-49 regarding "two pilot tone frequencies are allocated to calibration of the MAUs", and "The need to differentiate between pilot signals from each of the MAUs is achieved ... by allocating [a] unique frequency to each MAU"). Additionally, the teachings of Dean, which include such particular pilot signal teachings, provide a star topology network with the improved ability to detect collisions resulting from a plurality of units attempting to • communicate with a star coupler (e.g., see Dean at abstract and col. 1, lines 5-41 and col. 2, lines 1-8, each regarding detecting collisions). Thus, at the time of the invention it would have been obvious to one of ordinary skill in the art to apply the star coupler network teachings of Dean to

the star coupler network of Chari in order to provide the star topology network of Chari with the improved ability to detect collisions resulting from a plurality of units attempting to communicate with a star coupler (e.g., see Dean at abstract and col. 1, lines 5-41 and col. 2, lines 1-8, each regarding detecting collisions).

Regarding claim 2, Chari teaches in that to each network node (e.g., subsystems 12 No.0-N) in the network (e.g., system 10) a certain periodically repetitive time slot is assigned for the transmission of data (e.g., transmission is in accordance with periodically repetitive clock cycles, see col. 4, lines 22-37; see also clock signaling in col. 10, lines 25-53), and in that a network node (e.g., subsystem 12 No.0-N) includes a pilot signal generator (e.g., inherently comprised within subsystems 12, see col. 4, lines 32-37 regarding the generating of flag bits) which generates either a pilot signal (e.g., flag bits) that indicates the whole assigned time slot, or the beginning and end of the time slot (e.g., see col. 3, line 68 - col. 4, line 21 regarding beginning and ending flag bits which establish the beginning and ending of each message).

Regarding claim 3, Chaff teaches a pilot signal evaluation circuit (e.g., within contention circuitry 42) is provided for generating a send control signal (e.g., SELECT signal), in that the pilot signal evaluation circuit (e.g., within contention circuitry 42) is provided for activating the send control signal (e.g., SELECT signal) if a pilot signal (e.g., flag bit) has been sent by the assigned network node (e.g., subsystem 12) and no other star interface (e.g., interface 26) having a higher priority has simultaneously sent a pilot signal (e.g., flag bit) from the network node (e.g., subsystem 12) assigned to this other star interface (e.g., interface 26) (e.g., see col. 5, lines

3-53 regarding contention circuitry 42 providing respective SELECT0-SELECTN signals in accordance with priority), and in that a star interface (e.g., star coupler 14) is provided for transferring data from the assigned network node (e.g., subsystem 12) to the other star interfaces (e.g., interface 26) only when the send control signal (e.g., SELECT) is activated (e.g., see col. 5, lines 3-53).

Regarding claim 4, Chaff teaches in that each star interface (e.g., interface 26) includes a first and second switching element (e.g., first and second of a plurality of tri-state devices 36, see FIG. 3), in that the first switching element (e.g., tri-state device 36 receiving SELECT0 signal) in the activated state passes data from the assigned network node (e.g., subsystem 12) to the other star interfaces (e.g., interfaces 26) and the second switching element (e.g., tri-state device 36 receiving SELECTN signal) in the activated state passes data from the other star interfaces to the assigned network node (e.g., subsystem 12), and in that the first switching element (e.g., tri-state device 36 receiving SELECT0 signal) in the event of an active send control signal (e.g., upon receiving SELECT0 signal) is in the active state and the second switching element in the non-active state (e.g., see col. 5, lines 20-53; and col. 9, lines 50-68).

Regarding claim 5, Chari in view of Dean teach the network discussed above regarding claim 4, however, Chad in view of Dean may not specifically disclose the switching elements are switchable amplifiers. However, regarding claims 5 and 6, these claims were rejected in the previous office action by the Examiner taking official notice that the limitations recited in these claims are well known in the art. In Applicant's response to the previous office action, Applicant

has not traversed the Examiner's assertion of official notice or Applicant's traverse is not adequate. Therefore, in accordance with MPEP 2144.03(C), the limitations recited in these claims comprise well-known art and are hereafter taken to be admitted prior art. That is, it is well known in the art for switching elements to comprise switchable amplifiers. Thus, at the time of the invention it would have been obvious to one of ordinary skill in the art to utilize switchable amplifiers for the switching elements of Chad in view of Dean since it is well known in the art for switching elements to comprise switchable amplifiers.

Regarding claim 6, Chad teaches a decision circuit (e.g., within contention circuitry 42) evaluates the send control signals (e.g., SELECT0-N signals) of all the star interfaces (e.g., interfaces 26), and in that with a simultaneous occurrence of various send control signals (e.g., SELECT0-N signals), the decision releases via a decision control signal (e.g., COUPLER SELECT signal) a certain star interface for the transmission of data (e.g., see col. 5, lines 3-53 and col. 9, line 17 - col. 12, line 18).

Regarding claim 9, as discussed above regarding claim 1, Chad teaches a star node (e.g., star coupler 14) for coupling a plurality of network nodes (e.g., subsystems 12 No.0-N), characterized in that a star node includes a plurality of star interfaces (e.g., interfaces 26) which are assigned to at least one respective network node (e.g., subsystem 12 No.0, see col. 4, lines 49-57 regarding an interface 26 associated with each subsystem 12) and which, in dependence on a pilot signal (e.g., flag bits), transfer a message from the assigned respective network node (e.g., one of subsystems 12 No.0) to the other star interfaces, or from another star interface to the at

least one assigned network nodes (e.g., one of subsystems 12 No.0-N) (e.g., see col. 4, line 53 - col. 5, line 11 regarding transmissions between subsystems 12 and interfaces 26), and in that also in the event of simultaneous arrival of at least two pilot signals (e.g., flag bits), a decision circuit (e.g., within contention circuitry 42) releases one star interface for the transmission of data (e.g., see col. 5, lines 3-19 regarding "If two subsystems begin to generate flag bits during the same clock cycle, then the contention circuitry will resolve contention in favor of the subsystems 12 in accordance with a predetermined order of priority"). However, as discussed above, Chaff may not specifically disclose that the pilot signal is a signal of varying frequency.

Dean, like Chaff, also teaches a network with star topology (e.g., see paragraph 0213 regarding star topology), and further, Dean teaches a pilot signal is used (e.g., see abstract; col. 2, lines 41-50; and col. 4, lines 10-60 regarding pilot tones) wherein the pilot signal is a signal of varying frequency (e.g., see col. 4, lines 22-49 regarding "two pilot tone frequencies are allocated to calibration of the MAUs", and "The need to differentiate between pilot signals from each of the MAUs is achieved ... by allocating [a] unique frequency to each MAW'). Additionally, the teachings of Dean, which include such particular pilot signal teachings, provide a star topology network with the improved ability to detect collisions resulting from a plurality of units attempting to communicate with a star coupler (e.g., see Dean at abstract and col. 1, lines 5-41 and col. 2, lines 1-8, each regarding detecting collisions). Thus, at the time of the invention it would have been obvious to one of ordinary skill in the art to apply the star coupler network teachings of Dean to the star coupler network of Chaff in order to provide the star topology network of Chaff with the improved ability to detect collisions resulting from a plurality of units

attempting to communicate with a star coupler (e.g., see Dean at abstract and col. 1, lines 5-41 and col. 2, lines 1-8, each regarding detecting collisions).

Allowable Subject Matter

6. Claims 7 and 8 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

7. The following is a statement of reasons for the indication of allowable subject matter: claim 7 recites a network including all of the limitations recited in claims 1-6, with the additional limitations of a decision circuit including a chain of in-line decision elements each having an OR gate, wherein each gate combines the output signal of the previous decision element with a local send request signal generated by the pilot signal evaluation circuit and indicating the presence of the pilot signal, and wherein the output signal of an OR gate is the decision control signal for the star interface assigned to the next decision element in the chain. A network comprising each of these limitations was not found in a search of related prior art.

Claim 8 is dependant upon claim 7 and therefore comprises allowable subject matter for the same reasons discussed above regarding claim 7.

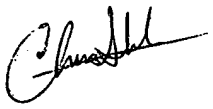
Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chirag G. Shah whose telephone number is 571-272-3144. The examiner can normally be reached on M-F 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Doris To can be reached on 571-272-7682. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

cgs
November 22, 2006



CHIRAG G. SHAH
PRIMARY PATENT EXAMINER

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